Conclusions: The requirements of EPA and DHA in Atlantic salmon are minimal; EPA is readily β-oxidised; EPA to DHA bioconversion is affected by substrate availability, and not product presence; DHA is efficiently conserved and deposited into the fish tissues.
Funding source(s): US Fats and Proteins Research Foundation.

ERYTHROCYTE *N*-3PUFA LEVELS PREDICT INFLAMMATORY STATUS IN OLDER AUSTRALIANS

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Background/Aims: Elevated levels of pro-inflammatory mediators heighten the risk of developing/aggravating a spectrum of chronic diseases and are a strong predictor of mortality in elderly cohorts. *n*-3PUFA (EPA and DHA) are known to possess anti-inflammatory properties. This study was aimed to determine if *n*-3PUFA status is a predictor of inflammation in older Australians.
Methods: This study was a cross-sectional analysis of randomly selected older men and women > 65 years ($n = 620$) recruited from the Central Coast of NSW, Australia. Fasting blood samples were analysed for C-reactive protein (CRP), fibrinogen and full blood count by an accredited pathology service. The fatty acid composition of erythrocyte membranes was analysed via GC to determine *n*-3PUFA (%EPA plus %DHA) status.
Results: After excluding participants who had an inflammatory disease or CRP levels > 10 mg/L, or who were taking anti-inflammatory medications or *n*-3PUFA supplements, 126 participants (male 42%; mean ± SD age 77.6 ± 7 years) were included in the analysis. *n*-3PUFA status was inversely associated with CRP ($r = -0.19$, $p < 0.05$). However no association between *n*-3PUFA status and fibrinogen was detected ($r = -0.08$, $p = 0.348$). Increased *n*-3PUFA levels were also associated with a reduced white blood cell ($r = -0.20$, $p < 0.05$), neutrophil ($r = -0.21$, $p < 0.05$), monocyte ($r = -0.26$, $p < 0.01$) and eosinophil ($r = -0.18$, $p = 0.05$) count.
Conclusions: The current study demonstrated a negative association between *n*-3PUFA status and markers of inflammation in an older population. The findings support a potential role for *n*-3PUFA (EPA/DHA) supplementation in the management of inflammatory conditions.
Funding source(s): ARC.

DIFFERENTIAL EFFECTS OF SATURATED AND *N*-6 PUFA ON BLOOD LIPIDS WHEN CO-ADMINISTERED WITH *N*-3 PUFA

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Background/Aims: The influence of diets rich in saturated fatty acids (SFA) or *n*-6PUFA in modulating blood lipid levels remains unclear. Recently we hypothesised that the lipemic effects of saturated fats are dependent on *n*-3PUFA status. This study aimed to examine the effects of consuming diets rich in SFA or *n*-6PUFA when co-administered with marine *n*-3PUFA.
Methods: This was a randomised, controlled, parallel, dietary intervention trial involving 16 healthy adults aged 18 to 65 years. Subjects consumed a diet high in either SFA or *n*-6PUFA, each supplemented with 2.4 g *n*-3PUFA daily for 6 weeks. Blood samples were collected after an overnight fast, at baseline and post-intervention, for analysis of blood lipid profile.
Results: A reduction in plasma triglyceride levels was noted post-intervention, which was similar following consumption of the SFA+*n*-3PUFA or the *n*-6PUFA+*n*-3PUFA diets (28% vs. 27% respectively). The SFA diet caused a significant rise in LDL ($p = 0.043$) and HDL-cholesterol ($p = 0.05$), while the *n*-6PUFA had no effect on LDL or HDL-cholesterol levels. Total:HDL-cholesterol or LDL:HDL-cholesterol ratios were not significantly different post-intervention for either of the diets. The change in total:HDL-cholesterol or LDL:HDL-cholesterol ratios following SFA diet was also similar to those on *n*-6PUFA diet.
Conclusions: Dietary SFA and *n*-6PUFA differentially modulates plasma lipid profile when co-administered with *n*-3PUFA. The mechanism and consequence of concomitant increase in HDL and LDL-cholesterol following saturated fat consumption in association with *n*-3PUFA are worthy of further examination.
Funding source(s): Coordenação Nacional de Desenvolvimento Científico e Tecnológico, Brazil.

Concurrent session 2: nutrition communication and education

ANTENATAL SHARED CARE MODEL: WHAT DO PREGNANT WOMEN AND THEIR HEALTHCARE PROVIDERS KNOW ABOUT IODINE?

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Background/Aims: In the Antenatal Shared Care (ANSC) model, pregnant women are cared for by both their general practitioner (GP) and a public antenatal clinic obstetrician. Clinical guidelines for ANSC recommend that nutrition supplementation, including iodine, is discussed by GPs at the women's first antenatal visit. The aim of this study was to assess knowledge and practices related to iodine nutrition in both pregnant women and healthcare providers participating in the ANSC program in the Illawarra, NSW.
Methods: Pregnant women ($n = 142$) and GPs and practice nurses ($n = 61$) completed knowledge and practice surveys about iodine. Pregnant women additionally completed an iodine specific, validated food frequency questionnaire.
Results: Both groups had poor knowledge about the importance and role of iodine during pregnancy. Only 36% of women reported having received adequate information about iodine, while 26% of GPs reported discussing iodine supplementation with their pregnant patients. Most GPs (70%) did not know the NHMRC recommended dosage of iodine for pregnancy supplements (150 μg/day). Seventy percent of women reported taking iodine supplements and 62% met the Estimated Average Requirement (EAR) for iodine intake (160 μg/day). Most healthcare providers (74%) expressed interest on receiving further education about iodine.
Conclusions: Both GPs and pregnant women in ANSC exhibited poor knowledge about iodine. Despite this, women surveyed were meeting their dietary requirements for iodine during pregnancy. Further education of General Practice staff is indicated to ensure that all pregnant women are encouraged to take a supplement containing iodine.
Funding source(s): N/A.

INTERDISCIPLINARY LIFESTYLE INTERVENTION: A PILOT STUDY OF EFFECTS ON WEIGHT LOSS

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Background/Aims: The aim of this study was to pilot test the effect on weight loss of a novel interdisciplinary lifestyle intervention in the short term.
Methods: A 12 week pilot randomised controlled parallel intervention was conducted in 22 adult volunteers (25-54 years; BMI 25-40 kg/m^2) in Wollongong, comparing usual care (general guidelines with practice nurse) with a novel protocol integrating the efforts of exercise physiologists, dietitians, psychologist and medical practitioners. Detailed protocols were developed, with ethics approval. Statistical analysis was conducted using a linear mixed model (SPSS version 21, IBM corporation Armonk NY).
Results: After 3 months the intervention group lost significantly more weight than the control group, adjusted mean difference (AMD) -3.98 kg, 95%CI: -6.17, -1.79; and body fat, AMD -3.25%, 95%CI: -6.05, -0.48. This was reflected in the changes in BMI, (AMD -1.24 kg/m^2; 95%CI: -2.05, -0.44) and waist circumference, (AMD -5.14 cm; 95%CI: -7.74, -2.53).